

No. 2
VOLUME 1/2016

Acta Economica Et Turistica

ACTA ECONOMICA ET TURISTICA (1) – No. 2 – pp. 113-212, Zagreb, May 2016

DE GRUYTER
OPEN

ISSN 1849-8469 (tisak)
ISSN 1849-921X (online)

Izdavač / Published by

Libertas međunarodno sveučilište / Libertas International University
Trg J. F. Kennedyja 6 b, 10000 Zagreb, Croatia
Tel: 385-1-5493-841
Fax: 385-1-5493-840
E-mail: ajurkovic@libertas.hr
Web: www.sveucilistelibertas.hr

Glavni i odgovorni urednik / Editor-in-chief

Prof. dr. sc. Boris Vukonić

Pomoćnik glavnog urednika / Assistant Editor-in-chief

Doc. dr. sc. Ivor Altaras Penda

Uređivački odbor / Editorial Board

Wiesław Alejski, Faculty of Tourism and Recreation, AWF, Krakow, Poland
Ante Babić, Association of Foreign Investment in Croatia, Zagreb, Croatia
Mato Bartoluci, Faculty of Economics, Zagreb, Croatia
Kaye Chon, The Hong Kong Polytechnic University, School of Hotel and Tourism Management, Hong Kong, China
Gordan Družić, Croatian Academy for Science and Art (HAZU), Zagreb, Croatia
Eduardo Fayos Sola, The Ulysses Foundation, Madrid, Spain
Ksenija Keča, Libertas University, Zagreb, Croatia
Goroslav Keller, Libertas University, Zagreb, Croatia
Metin Kozak, Mugla University, Mugla, Turkey
Tanja Mihalič, University of Ljubljana, Ljubljana, Slovenija
Vuk Tvrčko Opačić, Faculty of Science, Zagreb, Croatia
Duško Pavlović, Libertas University, Zagreb, Croatia
Davor Perković, Libertas University, Zagreb, Croatia
Doris Peručić, University of Dubrovnik, Dubrovnik, Croatia
Lidija Petrić, Faculty of Economics, Split, Croatia
Darko Polšek, Faculty of Philosophy, Zagreb, Croatia
Tomislav Presečen, National Bank of Croatia, Zagreb, Croatia
Egon Smeral, Modul University, Vienna, Austria
Dora Smolčić Jurdana, Faculty for Management in Tourism and Hospitality, Opatija, Croatia
Renata Tomljenović, Institute for Tourism, Zagreb, Croatia
Geoff Wall, University of Waterloo, Waterloo, Canada

Dizajn / Design: McCann-Erickson, Zagreb

Prijelom / Layout: Alias, Zagreb

Tisak / Printed by: Cerovski Print Boutique, Zagreb

Pretplata godišnje (dva broja): 200 Kn

Annual Subscription Rate (two issues): 50 EUR

ISSN 1849-921X (online)

ISSN 1849-8469 (tisak)

Radovi objavljeni u časopisu referiraju se u sekundarnim publikacijama: Hrčak, Zagreb i De Gruyter, Poljska.

Blanka
Simundić
Zvonimir
Kuliš

**TURIZAM I GOSPODARSKI
RAST U MEDITERANSKIM
ZEMLJAMA: DINAMICKA
PANEL ANALIZA**

**TOURISM AND ECONOMIC
GROWTH IN MEDITERRANEAN
REGION: DYNAMIC PANEL
DATA APPROACH**

SAŽETAK: Mediteranska regija jedna je od vodećih turističkih regija u svijetu, koja broji oko jednu trećinu svjetskih prihoda od turizma i pola svjetskih turističkih dolazaka. Cilj ovoga rada jest empirijski pokazati kako se turizam može smatrati odrednicom gospodarskog rasta u promatranoj regiji. Rezultati potvrđuju postavke hipoteze rasta na bazi turizma (engl. *tourism-led growth hypothesis*), dajući time nositeljima turističke politike potvrdu da je opravdano poticati stvaranje uvjeta za podizanje konkurentnosti u turizmu, koji će u konačnici potaknuti gospodarski rast.

KLJUČNE RIJEČI: gospodarski rast, turistička potražnja, mediteranske zemlje, dinamički panel model

ABSTRACT: The Mediterranean region is one of the leading tourism regions in the world accounting for one third of global tourism receipts and half of global tourism arrivals. This paper aims at providing evidence that tourism can be considered as determinant of economic growth in the Mediterranean region. The results support the postulates of tourism led growth hypothesis, thus giving to the policymakers endorses for improving the tourism competitiveness conditions that will boost the economic growth.

KEY WORDS: economic growth, tourism demand, mediterranean region, dynamic panel data model

UVOD

Turizam se smatra najpropulzivnijom industrijom u 21. stoljeću (Dwyer i Spurr, 2009). Nedavni razvoj broja međunarodnih turističkih dolazaka jasno pokazuje da međunarodni turizam pokazuje trend održivog i konstantnog rasta: broj međunarodnih turista u 1950. bio je 25 milijuna, do 2007. je narastao na 900 milijuna i u 2014. je iznosio 1,1 milijardu, nakon što je 2012. prvi put premašena brojka od 1 milijarde (UNWTO, 2015). Globalna financijska i ekonomska kriza reflektirala se u smanjenju međunarodnih turističkih dolazaka u 2009. (pad od 4% u odnosu na 2008), ali se u 2010. dogodio snažan oporavak međunarodnih turističkih dolazaka, s porastom od gotovo 4%. Prosječna stopa rasta dolazaka tijekom razdoblja između 2005. i 2014. bila je 3,8%. S dodatnih 46 milijuna svjetskih turista (+4,3%), 2014. je peta godina u nizu (od financijske krize 2009) čvrstog rasta koji prelazi dugoročnu prosječnu stopu rasta (+3,3% godišnje). Istaknuta karakteristika modernog međunarodnog turizma jest, dakle, njegova otpornost (Candela i Figini, 2012). Tempo budućeg turističkog rasta očevidan je iz UNWTO-ovih projekcija međunarodnih turističkih dolazaka na svjetskoj razini, prema kojima se očekuje da će ta brojka 2020. iznositi 1,4 milijarde, a 2030. 1,8 milijardi (UNWTO, 2013). Međunarodni turizam (prijevoz putnika i putovanja) generira oko 9% globalnog BDP-a i 1 od 11 poslova. Kao svjetska izvozna kategorija, turizam je rangiran na četvrtom mjestu (iza izvoza goriva, kemikalija i hrane, a ispred automobilske industrije), dok je na prvom mjestu u mnogim zemljama u razvoju. Globalno, međunarodni turizam čini 30% svjetskog izvoza usluga i 6% ukupnog svjetskog izvoza dobara i usluga (UNWTO, 2015). Oporavak turizma nakon globalne krize odvijao se različitim brzinama među različitim regijama i primarno je bio potaknut od strane razvijenih gospodarstava. U razdoblju između 2000. i 2009. broj međunarodnih turističkih dolazaka narastao je za 5,7% u Aziji i na Pacifiku, 6,2% u Africi i 8,8% na Bliskom istoku, ali samo

INTRODUCTION

Tourism is considered to be the most propulsive industry in the 21st century (Dwyer and Spurr, 2010). The recent evolution in the number of international arrivals worldwide clearly shows that the trend of international tourism is experiencing a sustained and constant growth: the number of international tourist in 1950 was 25 million, and increased up to 900 million in 2007 and in 2014, 1.1 billion after topping the 1 billion mark in 2012 (UNWTO, 2015). The global financial and economic crisis was reflected in reduction of international tourist arrivals in 2009 (downturn by 4% in comparison to 2008) but in 2010 there was already strong recovery in international tourist arrivals, corresponding to an increase of almost 4%. The average growth rate for arrivals during the period 2005-2014 was 3.8%. With 46 million more tourists travelling the world (+4.3%), 2014 marks the fifth consecutive year of robust growth above the long-term average (+3.3% a year) since the financial crisis of 2009. A striking feature of modern international tourism, hence, is its resilience (Candela and Figini, 2012). The pace for future tourism growth is evident from the UNWTO's projections of international tourist arrivals worldwide which are expected to reach 1.4 billion by 2020 and 1.8 billion by the year 2030 (UNWTO, 2013). International tourism (comprising travel and passenger transport) accounts for 9% of global GDP and generates one out of eleven jobs. As a worldwide export category, tourism ranks fourth after fuels, chemicals and food, and ahead of automotive products, and even ranks first in many developing countries. Globally, international tourism accounts for 30% of the world's exports of services and 6% of overall exports of goods and services (UNWTO, 2015). The recovery of tourism after the global crisis came at different speeds among different regions, and was primarily driven by emerging economies. In the period 2000-2009 the number of international tourist arrivals grew by 5.7% in Asia and Pacific, 6.2% in Africa and

1,8% u Europi i 1% u Amerikama (UNWTO, 2010). Drukčiji obrazac primjećuje se u 2014. godini. Europa (+3%) predvodi rast u apsolutnim terminima, ugostivši čak 15 milijuna više turista u 2014, čime je dosegla ukupnu brojku od 582 milijuna dolazaka. Amerike su zabilježile najbrži relativni rast u odnosu na sve UNWTO regije, povećanjem međunarodnih turističkih dolazaka 8% i rastom do brojke od 181 milijuna turista – 13 milijuna više nego u 2013. Azija i Pacifik ostvarili su rast od 5%, što predstavlja 14 milijuna turista više, te rast do ukupnog broja od 263 milijuna dolazaka u ovoj regiji (UNWTO, 2015). Prema tome, druga glavna karakteristika međunarodnog turizma jest promjenjivi obrazac u raspodjeli turističkih tijekova između regija. Unatoč tome, svjetski dolazni turizam pokazuje stabilnu koncentraciju od oko 51% u Europi, 23% u Aziji i na Pacifiku, te 16% u Amerikama za razdoblje između 2000. i 2014.

Danas se međunarodni turizam smatra ključnim pokretačem gospodarskog rasta i razvoja u mnogim odredištima (Neto, 2003). U makroekonomskim terminima, potrošnja međunarodnih posjetitelja računa se kao potrošnja za destinacijsku zemlju (prihodi) i kao izvoz (potrošnja) za zemlju porijekla posjetitelja (Stabler et al., 2010). Razlika između prihoda i potrošnje međunarodnog turizma mjeri neto bilancu usluga po osnovi putovanja, stoga turizam u mnogim zemljama pridonosi ravnoteži nacionalne bilance plaćanja (Candela i Figini, 2010).

Nadalje, potrošnja stranih turista povezana je s razinom proizvodnje i prihoda u gospodarstvu (Candela i Figini, 2012). Turizam generira prihode za javni i privatni sektor putem poreznih prihoda i plaća. Posljedično, turizam stvara mogućnosti za zapošljavanje te potiče privatne investicije i javnu potrošnju popraćenu rastom proizvodnje u gospodarstvu.

Imajući to u vidu, cilj ovog rada jest otkriti utjecaj rasta turizma na gospodarski rast u mediteranskim zemljama. Motiv za istraživanje utjecaja turizma na gospodarski rast na uzorku mediteranskih zemalja leži u činjenici da je ovo područje tradicionalno

8.8% in Middle East but only by 1.8% in Europe and 1.0% in the Americas (UNWTO, 2010). Different path is visible in 2014. Europe (+3%) led growth in absolute terms, welcoming 15 million more international tourists in 2014 to reach a total 582 million arrivals. The Americas recorded the fastest relative growth across all UNWTO regions with an 8% increase in international arrivals to reach 181 million – 13 million more than in 2013. Asia and the Pacific saw an increase of 5%, equivalent to 14 million more tourists, taking the regional total to 263 million arrivals (UNWTO, 2015). Therefore, a second striking feature of international tourism is the changing pattern in the distribution of flows across regions. Nevertheless, world inbound tourism demonstrates stable concentration of around 51% in Europe, 23% in Asia and Pacific, while 16% is in Americas for period 2000-2014.

Nowadays, international tourism is perceived as key engine of economic growth and development in many destinations (Neto, 2003). In macro-economic terms, expenditure by international visitors is counted as exports for the destination country (receipts) and as imports (expenditure) for the country of residence of the visitor (Stabler, Papatheodoru and Sinclair, 2010). The difference between receipts and expenditure for international tourism measures the tourism balance of trade, thus tourism is for many countries a contributor to the equilibrium of country's balance of payments (Candela and Figini, 2012).

Furthermore, inbound tourism expenditure (receipts) is linked to the production levels and the income in economy (Candela and Figini, 2012). Tourism generates income for public and private sector through tax revenues and wages. Thus tourism creates employment opportunities, stimulates private investment and public expenditure, all accompanied by the rise of production in economy.

Having all of this in mind, the aim of the paper is to examine the impact of tourism demand on economic growth in Mediterranean region. The

jedno od najvažnijih turističkih područja u svijetu. Aslan (2014) ukazuje na činjenicu da mediteranska regija broji više od jedne trećine ukupnih međunarodnih turističkih prihoda, dok u međunarodnim turističkim dolascima pridonosi s oko 45-50%. Prema WTTC-ovom izvješću (2016), izravni doprinos putovanja i turizma BDP-u u mediteranskom području bio je 354,4 milijarde dolara (4,5% ukupnog BDP-a), dok je u 2015. godini ukupni doprinos BDP-u bio 901,4 milijarde dolara (11,6% BDP-a). Putovanja i turizam u mediteranskoj regiji direktno omogućavaju oko 7,7 milijuna radnih mjesta (4,5% ukupne zaposlenosti) i ukupno su pridonijeli stvaranju oko 19,8 milijuna radnih mjesta (11,5% ukupno zaposlenih) u 2015. godini. Prognoza rasta pokazuje da će međunarodni turizam u mediteranskoj regiji i dalje rasti u narednim godinama (WTTC, 2016). Unatoč važnosti turizma na Mediteranu i njegovom utjecaju na stvaranje radnih mjesta, kao i prihoda, Aslan (2014) ističe da postoji samo nekoliko istraživanja koja proučavaju odnos između razvoja turizma i ekonomskog rasta u zemljama Mediterana te da je empirijski odnos između razvoja turizma i gospodarskog rasta i dalje nejasan.

Ovaj rad podijeljen je u pet dijelova. Nakon uvoda, drugo poglavlje razmatra pregled dosadašnje literature, nakon čega slijedi treće poglavlje, koje se odnosi na podatke, metodologiju i specifikaciju modela. Četvrto poglavlje sadrži rezultate i diskusiju i konačno, peto poglavlje donosi zaključke i ograničenja istraživanja.

PREGLED LITERATURE

Saznanja o tome da je u mnogim zemljama turizam jedan od temeljnih pokretača lokalnog i nacionalnog razvoja su neupitna, te su posljednjih godina zaživjela i u znanstvenim i empirijskim istraživanjima (Kumar i Hussain, 2014; Pulido-Fernández, Cárdenas-García i Sánchez-Rivero, 2014; Dritsakis, 2012; Ekanayake i Long, 2012;

incentive to investigate impact of tourism on economic growth on a sample of Mediterranean countries lies in fact that this region is traditionally one of the most important tourism regions in the world. Aslan (2014) indicates that the Mediterranean region accounts for approximately more than one-third of total international tourism revenues while in international tourism arrivals in the world it accounts for approximately 45% or even 50%. According to WTTC (2016) report, the direct contribution of travel and tourism to GDP in Mediterranean region was USD 354.4 billion (4,5% of total GDP) while total contribution to GDP was USD 901.4 billion (11,6% of GDP) in 2015. Travel and tourism in Mediterranean region supported around 7,7 million of jobs directly (4,5% of total employment) and totally contributed to creation of approximately 19,8 million jobs (11,5% of totally employment) in 2015. Forecast of the international tourism growth in Mediterranean region shows that it will continue to rise in future years (WTTC, 2016). Despite the importance of tourism in the Mediterranean and its impact on generation of jobs as well as income, Aslan (2014) points out that there are only few studies that investigate the relationship between tourism development and economic growth in the Mediterranean countries and that the empirical relationship between tourism development and economic growth is still ambiguous.

The paper is organized in five chapters. After introduction, the second chapter considers literature review followed by the third chapter on data, methodology and the model specification. The fourth chapter consists of results discussion and finally in fifth chapter the conclusion brings contribution and limitation of the research.

LITERATURE REVIEW

The evidence that in many countries tourism constitutes a fundamental engine of local and national development is unquestionable, and in

Adamou i Clerides, 2010; Cortés-Jiménez i Pulina, 2010; Cortés-Jiménez et al., 2009; Nowak i Sahli, 2008; Gökovali i Bahar, 2006; Sequeira i Campos, 2005; Eugenio-Martin, Martín Morales i Scarpa, 2004). Jasno je da su makroekonomski učinci turizma i njegova dinamika veoma kompleksni. Ovi aspekti mogu se proučavati koristeći standardne makroekonomske pristupe, zasnovane na proučavanju multiplikativnih utjecaja, na modelima egzogenog i endogenog rasta, modelima regionalnog/nacionalnog razvoja na bazi turizma. Empirijske analize temelje se na različitim metodološkim pristupima. Dwyer et al. (2009) ističu da se ne smiju miješati ekonomski doprinosi turizma i ekonomski učinci turizma. Dok ekonomski doprinosi turizma mjere veličinu i ukupnu značajnost industrije unutar gospodarstva, ekonomski utjecaji odnose se na promjene u gospodarstvu kao posljedicu specifičnih aktivnosti ili događaja koji predstavljaju "šokove" u turističkom sustavu (Dwyer, Forsyth i Dwyer, 2010). Stoga utjecaji koje turizam ima na kratkoročnu ravnotežu u gospodarstvima proučavaju kako turistička potražnja, koja je autonomna komponenta agregatne potražnje, kroz multiplikator, utječe na dohodak i razinu zaposlenosti u receptivnoj zemlji. Potrošnja posjetitelja u receptivnoj zemlji predstavlja novi novac koji je ubačen u gospodarstvo, što rezultira porastom direktnih, indirektnih i induciranih učinaka te vodi do povećanja ekonomske aktivnosti u destinaciji. Danas postoji široki raspon literature koja se bavi procjenom ekonomskih utjecaja turizma, a koja koristi različite metodološke alate za procjenu (Dwyer i dr., 2009; Kumar i Hussain, 2014). Korištene tehnike potječu iz aplikacija kejnzijanskog multiplikatora (Candela i Figini, 2012), a dominantni pristupi su sljedeći: *input-output* (IO) modeli (Frechtling, 1999; Tyrrell i Johnston, 2001; Dwyer, Forsyth i Spurr, 2004; Miller i Blair, 2009), modeli baznih djelatnosti (Kumar i Hussain, 2014; Archer, 1982), modeli opće ravnoteže (CGE) (Dwyer, 2015; Dwyer et al. 2004; Blake, Gillham i Sinclair, 2006) i turistička satelitska bilanca (TSA) (Frechtling,

recent years it gave birth to a flourishing scientific production (Kumar and Hussain, 2014; Pulido-Fernández, Cárdenas-García and Sánchez-Rivero, 2014; Dritsakis, 2012; Ekanayake and Long, 2012; Adamou and Clerides, 2010; Cortés-Jiménez and Pulina, 2010; Cortés-Jiménez et al., 2009; Nowak and Sahli, 2008; Gökovali and Bahar, 2006; Sequeira and Campos, 2005; Eugenio-Martin, Martín Morales and Scarpa, 2004). Clearly the macroeconomic impacts of tourism and of its dynamics are very complex. These aspects can be studied using standard tools of macroeconomic theory, such as the output and income multiplier, models of exogenous and endogenous growth, and models of regional/national development applied to the tourism case. In particular, the empirical analyses are conducted using different methodological approaches, while Dwyer et al. (2009) argue that economic contribution of tourism and economic impact of tourism should not be confused. While economic contribution of tourism measures the size and overall significance of the industry within economy, economic impact refers to the changes in the economic contribution resulting from specific activities or events that comprise 'shocks' to the tourism system (Dwyer, Forsyth and Dwyer, 2010). Thus the impact that tourism has on the economy's short-run equilibrium studies how the demand of tourism, which is an autonomous component of aggregate demand, through the multiplier, affects income and the employment levels in the inbound country. The expenditure by visitors in the inbound country represents new money injection into the economy, resulting in the rise of direct, indirect and induced effects, leading to increases in economic activity at that destination. There is today an extensive literature on estimating economic impact of tourism with different techniques used for the estimation (Dwyer et al., 2009; Kumar and Hussain, 2014). The techniques used originate from application of Keynesian multiplier (Candela and Figini, 2012) and the dominant ones are: input-output (IO) models (Frechtling, 1999; Tyrrell and Johnston, 2001; Dwyer, Forsyth and

2013). Uobičajeno, CGE modeli su proširena verzija IO-modela (Pao, 2005), dok je TSA mjerodavan prikaz direktnih doprinosa turističke potražnje receptivnim gospodarstvima. Kao takav, TSA predstavlja revolucionarni razvoj za razumijevanje turizma kao gospodarske aktivnosti, na isti način kao što su to, na primjer, prerađivačka industrija ili poljoprivreda. Ipak, kako je to ekonomska bilanca, TSA nije kreiran na način da generira sve ekonomske utjecaje varijabli potrebnih nositeljima vlasti (Frechtling, 2013).

Korištenje ovih modela treba biti razmatrano s oprezom, zbog svih statičkih i kratkoročnih ograničenja, između ostaloga. S druge strane, turizam može biti ključan čimbenik gospodarskog rasta i razvoja, a mnoge destinacije postigle su gospodarski razvoj zahvaljujući svojoj sposobnosti da upravljaju resursima i promoviraju turistički sektor. Neto (2003) je pokazao da su ekonomski tijekovi generirani od strane međunarodnog turizma postali vitalni čimbenici gospodarskog rasta, razmjene i međunarodnih gospodarskih odnosa među zemljama, posebno među zemljama u razvoju. Veza između turističke potražnje i gospodarskog rasta postala je važan predmet mnogih empirijskih studija. Postoje različiti modeli koji mogu pomoći u razumijevanju utjecaja turizma na gospodarski rast, a u recentnoj empirijskoj literaturi (Pablo-Romero i Molina, 2013) variraju različiti metodološki pristupi, kao što su: analiza vremenskih serija, kros-sekcijska analiza i analiza panel podataka. Ovi modeli proučavaju gospodarski rast i proširuju koncept makroekonomske ravnoteže iz kratkog u dugi rok. Temelje se na četiri osnovna postulata, grupirana prema sljedećim hipotezama: (i) *Tourism-Led Growth* hipoteza (TLGH), koja tvrdi da je turizam glavni čimbenik ukupnog gospodarskog rasta (Lanza i Pigliaru, 2000); (ii) *Growth-Led Tourism* hipoteza (GLTH), čiji je postulat da gospodarski rast pridonosi turističkom rastu (Aslan, 2014); (iii) bi-kauzalna hipoteza (BCH) ili hipoteza međusobne uzročnosti, prema kojoj turizam i gospodarski rast međusobno uzrokuju jedan drugog (Antonakakis, Dragouni i Filis, 2013);

Spurr, 2004; Miller and Blair, 2009), export base models (Kumar and Hussain, 2014; Archer, 1982), computable general equilibrium models (CGE) (Dwyer, 2015; Dwyer et al. 2004; Blake, Gillham, Sinclair, 2006) and tourism satellite accounts (TSA) (Frechtling, 2013). Usually, CGE models are extended IO-models (Pao, 2005) while TSA is the authoritative source of the direct contributions of tourism demand to inbound economies. As such, TSA has been a groundbreaking development for understanding tourism as an economic activity in the same terms that, for example, manufacturing or agriculture is understood. However, as it is an economic account, the TSA is not designed to generate all of the economic impact variables that policy-makers may need (Frechtling, 2013). Nevertheless, the use of these models should be considered with caution because of all the caveats they encompass, mainly the static and short run frameworks, among others. In the long run, tourism can be a key factor in enchain economic growth and development: many destinations have attained economic development thanks to their ability to manage the resources and to promote tourism sector. Neto (2003) showed that economic flows generated by international tourism have become vital factors in economic growth, trade and international economic relations in many countries, especially developing ones. Relationship between tourism demand and economic growth has become an important subject of many empirical studies. There are miscellaneous models that can help understand the impact of tourism on economic growth and in recent empirical studies they vary (Pablo-Romero and Molina, 2013) between different methodological approaches used such as: time series, cross sectional and panel data analysis. These models deal with economic growth and expand the concept of macroeconomic equilibrium from the short run to the long run. They are based on four different postulates grouped on the basis of following hypothesis: (i) *Tourism-Led Growth Hypothesis* (TLGH) that claims that tourism is a major driver of overall economic growth (Lanza and Pigliaru, 2000); (ii) *Growth-Led*

(iv) ne-kauzalna hipoteza (NCH) ili neutralna hipoteza, koja sugerira da ne postoji veza između turizma i gospodarskog rasta (Oh, 2005; Kum, Aslan i Gungor, 2015). Ovo područje empirijskog istraživanja pokazalo je progresivan rast interesa, što je rezultiralo brojnim empirijskim studijama i značajnim pregledima literature koji nude dublje uvide u ovu tematiku (Brida i Pulina, 2010; Pablo-Romero i Molina, 2013, između ostalih). Brida i Pulina (2010) analizirali su vezu između turističke aktivnosti i gospodarskog rasta u opsežnom pregledu literature od 38 empirijskih istraživanja koja su pokrivala razdoblje od 2002. do 2010. Zaključili su da se većina istraživanja oslanja na ekonometrijske tehnike, kao što su kointegracijski pristup i metode korigiranja grešaka, te da je u većini slučajeva potvrđena snažna veza između gospodarskog rasta i turističkih prihoda. Tri godine kasnije, Pablo-Romero i Molina (2013) u pregledu 86 radova utvrđuju da je metoda analize vremenskih serija najčešće korištena metodologija. Ipak, uočili su da je korištenje panel analize u posljednje vrijeme u porastu. Njihova zapažanja potvrđuju vezu između turizma i gospodarskog rasta u više od 95% obrađenih istraživanja. Tablica 1 nudi uvid u spoznaje i metodološke pristupe u dosadašnjim istraživanjima.

Empirijska veza između turističkog razvoja i gospodarskog rasta u mediteranskim zemljama i dalje je nejasna, a i nedostatan je broj istraživanja koji proučavaju taj uzorak i vezu (Aslan, 2014). Ipak, istraživanja koja su proučavala ovaj odnos većinom su potvrdila TLGH. Eryigit i Eryigit (2011) su dokazali postojanje dugoročne veze između turističkih prihoda i gospodarskog razvoja na uzorku zemalja mediteranskog bazena za razdoblje od 1995. do 2009, koristeći pritom testove jediničnog korijena u panelima i metode korigiranja pogrešaka temeljene na kointegracijskim panel tehnikama. Dristakis (2012) je izveo procjene na temelju panela s potpuno modificiranom metodom najmanjih kvadrata (FMOLS) i zaključio da postoji dokaz o panel kointegracijskoj vezi između turističkog razvoja i BDP-a u slučaju sedam

Tourism Hypothesis (GLTH) which postulates that economic growth contributes to the tourism growth (Aslan, 2014); (iii) Bi Causal Hypothesis (BCH) or Bi Directional Hypothesis according to which tourism and growth bring about each other (Antonakakis, Dragouni and Filis, 2013); (iv) No Causal Hypothesis or Neutral Hypothesis that suggests there is no relationship between tourism and economic growth (Oh, 2005; Kum, Aslan and Gungor, 2015). This area of empirical research has shown progressive growth of interest resulting in numerous empirical studies and in a significant number of literature reviews that offer deeper insights into this topic (Brida and Pulina, 2010; Pablo-Romero and Molina, 2013, among others). Brida and Pulina (2010) analyzed the relationship between tourism activity and economic growth in a comprehensive literature review of 38 econometric empirical studies covering the 2002-2010 period. They have founded that studies mostly rely on econometric techniques such as cointegration and error correction models and that in most cases the evidence of a strong relationship between economic growth and tourism receipts for country concerned has been confirmed. Three years later, Pablo-Romero and Molina (2013) in their review of 86 studies argue that time series analysis has been the most frequent methodology used. Nonetheless, they have noticed that panel data analysis has aroused recently. Their observation has confirmed the positive relationship between tourism and economic growth in more than 95% of studies in consideration. Table 1 offers better insight in their literature findings.

The empirical relationship between tourism development and economic growth in Mediterranean countries is still ambiguous due to only few studies that explore this relationship (Aslan, 2014). However, studies that have investigated this relationship mostly confirmed TLGH. Eryigit and Eryigit (2011) proved the long run relationship between tourism receipts and economic development by using a sample of Mediterranean Sea basin countries for period

Tablica 1. Tip vrste hipoteza i metoda koje se pronalaze u recentnoj empirijskoj literaturi Table 1. The hypothesis and methodologies concerned in recent empirical researches				
Tip \ Metoda Type \ Method	Vremenske serije Time Series	Kros-sekcijska analiza Cross Sectional ANALYSIS	Panel analiza Panel Data	UKUPNO TOTAL
TLGH	41	3	14	58
GLTH	8	–	–	8
BCH	12	–	4	16
NCH	2	1	1	4
Ukupno / Total	63	4	19	86

Izvor: adaptacija autora prema Pablo-Romero i Molina (2013)
Source: author adaption according to Pablo-Romero and Molina (2013)

mediteranskih zemalja. Gökovali i Bahar (2006) empirijski su istražili može li se TLGH potvrditi u mediteranskim zemljama u razdoblju od 1987. do 2002. Napravili su istraživanje temeljeno na statičkoj panel analizi (model slučajnog učinka) i njihova studija je potvrdila da je turizam važan čimbenik gospodarskog rasta. Nedavno je Aslan (2014) istraživao uzročnu vezu između turizma i gospodarskog rasta na grupi od 12 mediteranskih zemalja u razdoblju od 1995. do 2010. U njegovoj studiji, rezultati Granger panel analize pokazuju da turistički rast potiče gospodarski rast u mediteranskim zemljama. Kratko nakon Aslanovog (2014) istraživanja, Tugcu (2014) je ponovno ispitao vezu turizma i gospodarskog rasta na slučaju mediteranske regije. U njegovom istraživanju, tehnike panel testova jediničnog korijena i kros-sekcijske ovisnosti bile su korištene za testiranje uzročne veze između turizma i gospodarskog rasta. Rezultati su pokazali dvosmjernu uzročnost za turističke prihode i gospodarski rast u europskim mediteranskim zemljama, dvosmjernu uzročnost za turističku potrošnju i gospodarski rast u azijskim mediteranskim zemljama, a uzročnost između turizma i rasta u Africi nije bila pronađena.

Iako su ekonomski utjecaji turizma na gospodarski rast većinom ocijenjeni kao pozitivni (Lanza i

1995-2009 and by applying panel unit root tests and error-correction based panel cointegration techniques. Dristakis (2012) preformed panel FMOLS (fully modified ordinary least squares) estimates and found out that there is evidence of the panel cointegration relation between tourism development and GDP in the case of seven Mediterranean countries. Gökovali and Bahar (2006) empirically investigated whether the TLGH holds for the Mediterranean countries for the period 1987-2002. They made research based on panel data approach (random effects model) and their study verified the hypothesis that tourism is an important factor of economic growth. Recently, Aslan (2014) researched the causal relationship between tourism and economic growth for a group of 12 Mediterranean countries covering the period 1995–2010. In his study, results of panel Granger indicated that tourism growth leads to economic growth for Mediterranean countries. Shortly after Aslan’s (2014) study, Tugcu (2014) revisited tourism and economic growth nexus for the case of Mediterranean region. In this research, panel unit root and cross sectional dependence techniques were employed to test causal relationship between tourism and economic growth. Results showed bi-directional causality for tourism receipts and economic growth in European Mediterranean countries, bi-directional

Pigliaru, 2000; Adamou i Clerides, 2010; Cortés-Jiménez i Pulina, 2010; Cortés-Jiménez et al., 2009; Nowak i Sahli, 2008), također postoje i negativni aspekti turizma analizirani u literaturi. Pod pretpostavkom oskudnosti resursa, turizam može zamijeniti druge rastuće sektore u gospodarstvu i djelovati negativno. Nadalje, turizam može uzrokovati povećanje cijena ili čak negativne utjecaje na zemlju receptivnog gospodarstva ako postoji prevelika ovisnost o turizmu, visoka sezonalnost ili izraziti *leakage* učinci te okolišne eksternalije (Wall i Mathienson, 2006). Unatoč tome, negativni utjecaji turizma nisu predmet ovog istraživanja.

UZORAK, VARIJABLE I SPECIFIKACIJA MODELA

Pablo-Romero i Molina (2013) obrazlažu da je zajednička karakteristika većine postojećih radova istraživanje veze između turističkog rasta i gospodarskog rasta te izostavljanje drugih čimbenika gospodarskog rasta iz analize. Izuzetak je istraživanje Gökovalija i Bahara (2006), koje potvrđuje da tradicionalni čimbenici (kapital i rad), kao i turizam, utječu na gospodarski rast. Generalno, izostavljanje drugih elemenata gospodarskog rasta jedno je od glavnih ograničenja dosadašnjih empirijskih studija koje istražuju odnos turizma i gospodarskog rasta. Pablo-Romero i Molina (2013) ističu da je u prethodnim studijama zabilježeno ograničeno uvrštavanje drugih varijabli, dok Cortes-Jimenez i Pulina (2010) naglašavaju da je glavni nedostatak prethodnih empirijskih istraživanja uključivanje samo dviju varijabli u model, najčešće turizma i vrijednosti ukupne proizvodnje.

U usporedbi s postojećim empirijskim istraživanjima provedenima na uzorku mediteranskih zemalja (Tablica 2), ovo istraživanje razlikuje se u: metodološkom pristupu, budući da se izvodi dinamička panel analiza, koristi proširen uzorak zemalja utemeljen na klasifikaciji

causality for tourism expenditures and economic growth in Asian Mediterranean countries, while no causality was found between tourism and economic growth in Africa.

Although economic impacts of tourism on economic growth are evaluated positive in majority of the empirical studies (Lanza and Pigliaru, 2000; Adamou and Clerides, 2010; Cortés-Jiménez and Pulina, 2010; Cortés-Jiménez, I. et al., 2009; Nowak and Sahli, 2008) there are also negative aspects of tourism criticized in the literature. Under the hypothesis of scarcity of resources, tourism can be competing with the growth of other sectors of the economy. Tourism may cause an increase in prices or even negative impacts on inbound country's economy if there is overdependence on tourism, high seasonality or high leakage effect and environmental externalities (Wall and Mathienson, 2006). Nevertheless, the negative impacts of tourism are not addressed in this research.

SAMPLE, DATA AND MODEL SPECIFICATION

Pablo-Romero and Molina (2013) argue that the common feature of the majority of the existing studies is examination of the relation between tourism development and economic growth and negligence of other factors of economic growth. The exception is made in Gökovali and Bahar (2006) research which argues that traditional factors (capital and labor) as well as a tourism related factor contribute to economic growth. Generally, neglecting of other elements of economic growth is one of the main limitations of current empirical studies on relation between tourism and economic growth. Pablo-Romero and Molina (2013) indicate that previous studies record a limited inclusion of other variables while Cortes-Jimenez and Pulina (2010) indicated that the main drawback of previous empirical researches is inclusion of only two variables in the model, such as tourism and output.

In comparison to existing empirical researches obtained on a sample of Mediterranean countries

Tablica 2. Popis zemalja obuhvaćenih uzorkom		Table 2. List of countries included in the sample	
Zemlja / Country		Zemlja / Country	
1	Albanija / Albania	13	Libija / Libya
2	Alžir / Algeria	14	Makedonija, B.J.R. / Macedonia, FYR
3	Bosna i Hercegovina / Bosnia & Herzegovina	15	Malta
4	Hrvatska / Croatia	16	Crna Gora / Montenegro
5	Cipar / Cyprus	17	Maroko / Morocco
6	Egipat / Egypt	18	Portugal
7	Francuska / France	19	Srbija / Serbia
8	Grčka / Greece	20	Slovenija / Slovenia
9	Izrael / Israel	21	Španjolska / Spain
10	Italija / Italy	22	Sirija / Syria
11	Jordan	23	Tunis / Tunisia
12	Libanon / Lebanon	24	Turska / Turkey

Izvor: izrada autora bazirana na klasifikaciji WTTC-a (2016)
Source: compiled by the authors based on WTTC (2016) classification

mediteranske regije prema Svjetskom odboru za putovanja i turizam (WTTC, 2016), i u novom vremenskom razdoblju, od 2004. do 2014. Nadalje, u radu se istražuje utjecaj turističke potražnje (turistički prihodi kao *proxy*) na gospodarski rast uz druge, uobičajeno korištene determinante gospodarskog rasta te se na taj način nadilaze ograničenja dosadašnjih znanstvenih istraživanja.

Za svrhu istraživanja kreiran je multivarijatni model od sljedećih varijabli. Zavisna varijabla jest *gospodarski rast* i proxy je BDP per capita rast (BDPrpc) koji predstavlja godišnju stopu rasta BDP-a per capita (u stalnim vrijednostima). Glavna nezavisna varijabla je *turistička potražnja* (TUR), prikazana kroz uobičajeno korišteni indikator za turističku potražnju [pogledati Lim (2006) ili Ahmed (2015) za više detalja]: međunarodne turističke prihode (% ukupnog izvoza), npr. potrošnju međunarodnih dolaznih turista. Sukladno

this paper differs in: methodological approach since the dynamic panel data analysis is performed, in the use of extended sample of a countries which is based on World Travel and Tourism Council's classification (WTTC, 2016) of Mediterranean region (Table 2), and in extended time framework form 2004 till 2014. Moreover, the paper studies the impact on economic growth of tourism demand (tourism receipts as a proxy) in addition to other commonly used determinants of economic growth as to overcome the explained limitations in existing studies.

For the purpose of the study the following multivariate framework of dependent and independent variables is formed. Dependent variable is *economic growth* and a proxy used is GDP per capita growth (GDPgpc) presenting annual percentage growth rate of GDP per capita based on constant local currency. Main independent variable

posljednjim empirijskim istraživanjima, očekuje se pozitivan utjecaj turizma na gospodarski rast.

Preostale (kontrolne) varijable uključene u model su: državna potrošnja, investicije, trgovinska otvorenost i ljudski kapital. Indikator za *državnu potrošnju* (DRŽ) jest ukupna državna potrošnja kao postotak BDP- a. Uvažavajući dosadašnju ekonomsku teoriju, nije jasno utječe li državna potrošnja na gospodarski rast pozitivno ili negativno (Mitchell, 2005). Proxy varijabla za *investicije* (INV) su bruto kapitalne investicije kao postotak udjela u BDP-u. Očekuje se da investicije imaju pozitivan utjecaj na gospodarski rast zbog svog pozitivnog utjecaja na proizvodnju.

Trgovinska otvorenost (OTV) je suma izvoza i uvoza dobara i usluga mjerena kao postotak bruto domaćeg proizvoda. Slično kao i u slučaju s državnim potrošnjom, još nema jasnih zaključaka utječe li pozitivno ili negativno na gospodarski

is *tourism demand* (TOUR) which is represented by commonly used indicator for tourism demand [see Lim (2006) or Ahmed (2015) for more details]: international tourism receipts (% of total exports) i.e. expenditures by international inbound visitors. On the basis of recent empirical results positive impact of tourism on economic growth is expected.

Other (control) variables included in the model are: government consumption, investment, trade openness and human capital. Indicator for *government consumption* (GOVER) is total government consumption as percentage share of GDP. In respect to economic theory, it is unclear if government consumption affects economic growth positively or negatively (Mitchell, 2005).

Proxy variable for *investment* (INVEST) is gross fixed capital formation as percentage share of GDP. It is expected that investment has positive impact on economic growth as it has positive

Tablica 3. Specifikacija modela / Table 3. Model specification

Varijabla Variable	Indikator Indicator	Oznaka Label	Očekivani predznak Expected sign	Izvor SOURCE
Gospodarski rast Economic growth	BDP <i>per capita</i> rast (godišnje %) GDP per capita growth (annual %)	BDPpc GDPgpc		WDI
Turistička potražnja Tourism demand	Međunarodni turizam, prihodi (% ukupnog izvoza) International tourism, receipts (% of total exports)	TOR TOUR	+	WDI
Državna potrošnja Government consumption	Opća državna potrošnja (% BDP-a) General government final consumption expenditure (% of GDP)	DRŽ GOVER	+/-	WDI
Investicije Investment	Bruto kapitalne investicije (% BDP-a) Gross capital formation (% of GDP)	INV INVEST	+	WDI
Trgovinska otvorenost Openness to trade	Suma izvoza i uvoza dobara i usluga (% BDP-a) Sum of exports and imports of goods (% GDP)	OTV TRADE	+/-	WDI
Ljudski kapital Human capital	Stopa participacije radne snage (% ukupne populacije dobi 15-64) (modelirano ILO procjenama) Labor force participation rate (% of total population ages 15-64) (modeled ILO estimate)	LJK HC	+	WDI

Izvor: izrada autora / Source: compiled by the authors

rast, ali općenito, većina razmatranja ide u smjeru pozitivnog utjecaja [vidjeti Rodriguez & Rodrik (2001) ili Yanikkaya (2003) za više informacija]. Konačno, posljednja varijabla uključena u model jest *ljudski kapital* (LJK). Njegova *proxy* varijabla je stopa participacije radne snage (% od ukupne populacije između 15 i 64 godine, modeliranje ILO procjenama). Ljudski kapital sudjeluje u svim gospodarskim aktivnostima, kao što su proizvodnja, potrošnja i transakcija. Stoga je prepoznato da je ljudski kapital jedan od elemenata proizvodnje koji može generirati dodanu vrijednost (Kwan, 2009).

Godišnji podaci za sve varijable prikupljeni su iz baze Svjetske banke – Svjetski razvojni indikatori (WDI, 2016). Vremensko razdoblje obuhvaća jedanaestogodišnje razdoblje (od 2004. do 2014) za 24 mediteranske zemlje. Sve varijable, indikatori i očekivani predznaci u modelu prezentirani su u Tablici 3.

Konačno, formiran je sljedeći dinamički model:

$$\begin{aligned} \text{BDPPrpc}_{it} &= \mu + \gamma \text{BDPPrpc}_{i,t-1} + \beta_1 \text{TUR}_{it} + \beta_2 \text{DRŽ}_{it} + \beta_3 \text{INV}_{it} \\ &+ \beta_4 \text{OTV}_{it} + \beta_5 \text{LJK}_{it} + \alpha_i + \varepsilon_{it} \\ i &= 1, 2, 3 \dots 32, 33; t = 2000, 2001, \dots 2013, 2014. \end{aligned}$$

gdje $i=1, 2, \dots, N$ predstavlja svaku zemlju u panelu i $t=1, 2, \dots, T$ se odnosi na vremensko razdoblje. μ je konstantni član, γ je parametar lagirane zavisne varijable i $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ su parametri egzogenih varijabli. Pretpostavka je da je greška relacije ε_{it} IID $(0, \sigma_\varepsilon^2)$. α_i predstavlja slučajni učinak koji se ne mijenja u vremenu i jednak je za sve jedinice promatranja.

Deskriptivna statistika jest predstavljena u Tablici 4.

METODOLOGIJA I REZULTATI ISTRAŽIVANJA

Neupitne su prednosti primjene metodologije panel analize u istraživanjima utjecaja turizma na gospodarski rast. Pablo-Romero i Molina (2013) ističu sljedeće: mogućnost korištenja

impact on production. *Trade openness* (TRADE) is the sum of exports and imports of goods and services measured as a share of gross domestic product. Similarly, as in the case of government consumption, there is still no conclusion if it affects positively or negatively economic growth but general conclusion is in favour of positive effect [see Rodriguez and Rodrik (2001) or Yanikkaya (2003) for deeper insight]. Finally, last variable included in the model is *human capital* (HC). Its proxy is labour force participation rate (% of total population ages 15-64, modelled ILO estimate). The human capital is the subject to take charge of all economic activities such as production, consumption, and transaction. Thus, it can be recognized that human capital is one of production elements which can generate added-values through inputting it (Kwan, 2009).

Annual data for all variables were collected from the World Bank's World Development Indicators database (WDI, 2016). Time range is a 11-year period (from 2004 to 2014) for 24 Mediterranean countries. The data for all variables, indicators and expected signs are presented in Table 3.

Finally, the following dynamic panel data model is formed:

$$\begin{aligned} \text{GDPgpc}_{it} &= \mu + \gamma \text{GDPgpc}_{i,t-1} + \beta_1 \text{TOUR}_{it} + \beta_2 \text{GOVER}_{it} \\ &+ \beta_3 \text{INVEST}_{it} + \beta_4 \text{OPEN}_{it} + \beta_5 \text{HC}_{it} + \alpha_i + \varepsilon_{it} \\ i &= 1, 2, 3 \dots 32, 33; t = 2000, 2001, \dots 2013, 2014 \end{aligned}$$

where $i=1, 2, \dots, N$ counts for each country in the panel and $t=1, 2, \dots, T$ refers to the time period. Moreover, μ denotes for an intercept, γ is a parameter of lagged dependent variable and $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ are the parameters of exogenous variables. It is assumed that ε_{it} are IID $(0, \sigma_\varepsilon^2)$. α_i represents unobservable individual-specific effect that is time invariant and it accounts for any individuals.

Descriptive statistics of the data is presented in the Table 4.

Tablica 4. Deskriptivna statistika / Table 4. Descriptive statistics

Varijabla Variable	Arit. Sred. Mean	Std. Dev.	MIN.	MAX.	N
BDPrpc / GDPgpc	1,870238	8,475466	-62,21435	104,6576	256
TUR / TOUR	19,67509	14,40593	0,159272	65,78511	244
DRŽ / GOVER	18,20738	3,824736	9,943259	29,9406	248
INV / INVEST	23,95911	6,593355	9,516585	46,87646	248
OTV / TRADE	86,41559	29,43721	37,41377	182,5057	254
LJK / HC	51,87273	5,886643	40,2	64,4	264

Izvor: izrada autora prema WDI (2016) podacima i izračunato uz pomoć programa Stata 13.0
Source: compiled by the authors based on WDI (2016) data with help of program Stata 13.0

većeg broja nezavisnih varijabli, veći uzorak zemalja, veća vremenska razdoblja i mogućnosti dubinske analize odnosa između varijabli. Nadalje, Seetaram & Petit (2012) navode da je kontrola heterogenosti u uzorku jedna od najvažnijih prednosti panel analize. Zbog dinamičke prirode ekonomskog rasta kao zavisne varijable te karakteristika uzorka, procjena modela izvršena je korištenjem GMM metode (metode generaliziranih momenata), preciznije Blundell i Bond (BB) procjeniteljem u dva koraka (1998). Kako Višić i Škrabić (2011) objašnjavaju, procjenitelj u jednom koraku pretpostavlja da su reziduali nezavisni i homoskedastični između zemalja i u promatranom vremenskom razdoblju, dok procjenitelj u dva koraka umanjuje ove pretpostavke nezavisnosti i homoskedastičnosti (procjenitelj u dva koraka je robustan na heteroskedastičnost, a i učinkovitiji je od procjenitelja u jednom koraku).

Prije procjene modela potrebno je provjeriti postoji li problem multikolinearnosti između nezavisnih varijabli. U panelima ne postoji službeni statistički test za testiranje ovog problema, stoga se prema Baltagijevim (2008) preporukama računa korelacijska matrica uz pomoć programa Stata 13.0 (Tablica 5).

METHODOLOGY AND RESULTS

There are several advantages of panel data methodology usage in the studies of tourism effects on the economic growth. For example, Pablo-Romero and Molina (2013) indicate following ones in their review: allowance of larger number of explanatory variables, larger sample of countries, longer time periods under analysis and greater depth in the relationships between variables. Furthermore, Seetaram and Petit (2012) state that the control of heterogeneity in the sample is one of the most important advantages of panel analysis. Because of dynamic nature of the economic growth as depended variable and sample characteristics, the model estimation was performed using GMM (generalized methods of moments) estimator, precisely Blundell and Bond (BB) two step estimator (1998). As Višić and Škrabić (2011) explain, the one step estimator assumes the error terms to be independent and homoscedastic across countries and over time while two step estimator relaxes the assumption of independence and homoscedasticity.

Before model estimation, it was necessary to check if the problem of the multicollinearity among independent variable exists. In panels there is

Tablica 5. Korelacijska matrica / Table 5. Pair wise correlations matrix

Varijabla Variable	BDPrpc GDPgpc	TUR TOUR	DRŽ GOVER	INV INVEST	OTV TRADE	LJK HC
BDPrpc / GDPgpc	1,0000					
TUR / TOUR	0,1427*	1,0000				
DRŽ / GOVER	-0,2538*	-0,2478*	1,0000			
INV / INVEST	0,3363*	0,2324*	-0,1793*	1,0000		
OTV / TRADE	0,0663	0,0859	0,1179	0,0408	1,0000	
LJK / HC	-0,0766	-0,0308	0,1470*	-0,1478*	-0,0717	1,0000

Izvor: izrada autora prema WDI (2016) podatcima i izračunato uz pomoć programa Stata 13.0

Source: compiled by the authors based on WDI (2016) data with help of program Stata 13.0

*statistička signifikantnost od 5% / *statistical significance at 5%

Tablica 5 daje Pearsonove koeficijente korelacije između nezavisnih varijabli. Slijedeći Gujaratijevu i Porterovu (2008) sugestiju, ozbiljan problem multikolinearnosti postoji ako neki od Pearsonovih koeficijenata korelacije između dvije nezavisne varijable u modelu prelazi vrijednost 0,8. U prezentiranom modelu, najveći koeficijent korelacije je 0,3363 i ova vrijednost je daleko ispod kritične, tako da se može zaključiti kako je preduvjet o nepostojanju multikolinearnosti u modelu ispunjen. Konačno, model determinanti ekonomskog rasta procijenjen je uz pomoć statističkog programa Stata 13.0 i rezultati su prezentirani u Tablici 6.

Prije analiziranja rezultata modela, provedeni su dijagnostički testovi da bi se potvrdila validnost modela. U panel analizi standardno se kao dijagnostički test koriste Sarganov test i dva dijagnostička testa o autokorelaciji prvog i drugog reda među prvim diferencijama rezidualnih odstupanja (poznatiji pod nazivima m1 i m2), koje su uspostavili Arellano i Bond (1991). Nulta hipoteza Sarganova testa je da su odabrane instrumentalne varijable nekorelirane s rezidualima. Ako se nulta hipoteza ne odbacuje, svi uvjeti na momente su zadovoljeni i svi navedeni

no formal appropriate statistical test to check this problem, so according to Baltagi's (2008) recommendation; a pair wise correlation matrix is calculated using Stata13.0 software (Table 5).

The Table 5 presents Pearson's correlation coefficients between independent variables. Following Gujarati and Porter's (2008) suggestion, serious problem of multicollinearity exists only if some of Pearson's correlation coefficients between the two independent variables in the model exceed the value of 0,8. In presented model, highest correlation coefficient is 0,3363 and this value is far from critical so it can be concluded that precondition about non multicollinearity in the model is accomplished. Finally, the model of determinants of economic growth is computed using two step Blundell and Bond GMM estimator within the statistical software Stata 13.0 and results are presented in Table 6.

Before analysing the model results, diagnostic tests are conducted to confirm model validity. In panel data analysis most commonly used diagnostic tests are Sargan test and tests for serial correlations (commonly labelled m1 and m2 test) which were derived by Arellano and Bond (1991).

instrumenti su valjani. Kao što se može primijetiti u Tablici 6, p- vrijednost Sarganovog testa je 0,3258 (>0,05) što potvrđuje validnost izabranih instrumenata. Nulta hipoteza m1 i m2 testova kaže da ne postoji problem autokorelacije prvog i drugog reda te da nema pogrešne specifikacije

Null hypothesis of Sargan tests posits that there is no correlation between the instruments and the errors and if it is not rejected that means model is well specified. As it can be noticed in Table 6, p-value of Sargan test is 0,3258 (>0,05) which confirms the validity of chosen instruments.

Tablica 6. Procjenjeni rezultati (Blundell i Bond GMM sistemski procjenitelj) za model gospodarskog rasta

Table 6. Estimation Results (Blundell and Bond GMM System Estimator) for model of economic growth

Objašnjavajuće varijable / Explanatory variables	Koeficijenti / Coefficients
L.BDPrpc / L.GDPgpc	0,0776012 ** (0,0322936)
TUR / TOUR	0,2086739 *** (0,0291531)
DRŽ / GOVER	-0,633489*** (0,0907274)
INV / INVEST	0,2413777 *** (0,0269932)
OTV / TRADE	0,1317182*** (0,0086725)
LJK / HC	0,2689302** (0,1219067)
_kons / _cons	-21,79736*** (5,956181)
Broj observacija / Number of observations Broj	218
jedinica promatranja / Number of groups Broj	24
instrumenata / Number of instruments Sargan	24
test (p-vrijednost) / Sargan test (p-value) m1	0,3258
test (p-vrijednost) / m1 test (p-value)	0,0023
m2 test (p-vrijednost) / m2 test (p-value)	0,0517

Izvor: izrada autora prema WDI (2016) podacima i izračunato uz pomoć programa Stata 13.0

Source: compiled by the authors based on WDI (2016) data with help of program Stata 13.0

Napomena: * p<0,1, ** p<0,05, *** p<0,01. Standardne greške su u zagradama.

Notes: * p<0,1, ** p<0,05, *** p<0,01. Standard errors in parentheses

modela kada ne postoji autokorelacija drugog reda. Kako je p vrijednost m2 testa 0,0517, nulta hipoteza m2 testa se ne odbacuje, što potvrđuje da je model dobro specificiran. Konačno, koeficijent lagirane varijable je pozitivan i statistički značajan, što potvrđuje prikladnost odabira dinamičkog panel modela.

Na temelju rezultata modela pokazuje se da turistička potražnja utječe na gospodarski rast pozitivno i statistički značajno (pri razini signifikantnosti od 5%) u mediteranskim zemljama. Vrijednost koeficijenta turističke potražnje je 0,21 što pokazuje da ako turistička potražnja poraste za jedan postotni bod, gospodarski rast će porasti za 0,21 postotni bod. Uočljivo je da je učinak još i jači u dugom roku. Prema formuli za izračun dugoročnih utjecaja u panel analizi $\beta/(1-\gamma_{it})$, može se uočiti da učinak raste do 0,23 postotna boda. Nadalje, rezultati procjene modela potvrđuju teorijski očekivani smjer utjecaja drugih determinanti gospodarskog rasta. Može se primijetiti da samo državna potrošnja ima statistički negativan utjecaj na gospodarski rast mediteranskih zemalja, što se može objasniti neučinkovitom investicijskom potrošnjom ovog sektora u promatranim zemljama. Preostale kontrolne varijable – investicije, trgovinska otvorenost i ljudski kapital – imaju pozitivan utjecaj na gospodarski rast u promatranoj regiji.

ZAKLJUČAK

Ovo istraživanje je za glavni cilj imalo ispitati može li turizam biti važan čimbenik gospodarskog rasta na uzorku zemalja mediteranske regije.

Meditranska je regija duži niz godina jedna od najistaknutijih turističkih regija u svijetu, obzirom da broji otprilike više od jedne trećine ukupnih međunarodnih turističkih prihoda i pola međunarodnih turističkih dolazaka u svijetu. Empirijsko istraživanje provedeno je primjenom dinamičke panel analize, preciznije

Null hypothesis of m1 and m2 tests say that there is no serial correlation and that there is no misspecification of the model if there is no second- order serial correlation. As p -value of m2 test is 0,0517, the null hypothesis of m2 test is not rejected which confirms that the model is well specified. Finally, the coefficient of lagged dependent variable is positive and statistically significant confirming the appropriateness of dynamic panel data model.

Thus estimation results show that tourism demand affects economic growth positively and statistically significantly (at level of 5%) in Mediterranean countries. Value of tourism demand's coefficient is 0,21 and it shows that if tourism demand increases by 1 percentage point, economic growth will increase by 0,21 percentage points. It is notable that effect is even stronger in long run. According to the formula for long run effects in dynamic panel data $\beta/(1-\gamma_{it})$ it is notable that the long run effect would increase t 0,23 percentage points. Furthermore, findings of the model estimation confirm theoretically expected influence of other determinants of economic growth. It can be noticed that only government consumption has significantly negative effect for Mediterranean countries which can be explained with the low efficiency of this sector in observed countries. The remainder of control variables: investment, trade openness and human capital also yield positive effect on economic growth in Mediterranean region.

CONCLUSION

The main objective of this study was to examine weather tourism can be a valuable factor of economic growth for a sample of countries in Mediterranean region. Mediterranean region through many years has been one of the foremost tourism regions in the world as it accounts for approximately more than one-third of total

Blundell i Bondov-a procjenitelja, na uzorku 24 mediteranske zemalje u razdoblju od 11 godina (od 2004. do 2014. godine). Rezultati su potvrdili da turistička potražnja ima pozitivan te statistički značajan utjecaj na gospodarski rast u mediteranskim zemljama, potvrđujući time teorijske pretpostavke TLGH-a i rezultate postojećih empirijskih studija. Nadalje, rezultati također ukazuju da drugi uobičajeni faktori ekonomskog rasta utječu na gospodarski rast prema očekivanom predznaku: investicije, trgovinska otvorenost i ljudski kapital imaju pozitivan utjecaj, dok državna potrošnja ima negativan utjecaj na gospodarski rast. Doprinos istraživanja u ovom radu očituje se u obuhvatu većeg uzorka mediteranskih zemalja u analizu, na temelju političke i ekonomske klasifikacije WTTC-a, u korištenju podataka za dulje vremensko razdoblje, te primjena panel analize s Blundell-Bond procjeniteljem koja je u konačnici potvrdila da je turizam čimbenik ekonomskog rasta zajedno s drugim čimbenicima gospodarskog rasta obuhvaćenim analizom. Osim što pridonose znanstvenoj literaturi, rezultati ovog rada također pružaju implikacije nosiocima turističkih politika. Budući da je pokazano da rast turističke potražnje potiče gospodarski rast u mediteranskoj regiji, kreatori turističkih politika bi trebali uzeti u obzir poboljšanje uvjeta za turističku konkurentnost, a time i za jačanje gospodarskog razvoja. Mediteranska je regija poznata po svom turističkom proizvodu - suncu, more, pijesak, stoga se kreatori turističkih politika mogu usredotočiti na alternativne, selektivne i održive turističke proizvode, stvarajući turističke politike na ovim prostorima koje će imati za cilj povećanje konkurentnosti.

Ograničenja istraživanja su u neuravnoteženim podacima za promatrano razdoblje, nepotpunim panel podacima, te ograničenjima vezanim za vremensko razdoblje istraživanja i obuhvaćene prostorne jedinice. Stoga se istraživanje može unaprijediti na ovom području, ali i u području definiranja varijabli. Primjerice, unaprijeđenje

international tourism revenues and half of international tourism arrivals in the world. To provide empirical evidence dynamic panel data approach, precisely Blundell- Bond estimator was used on a sample of 24 Mediterranean countries in 11-year period (from 2004 to 2014). Results confirmed that tourism demand has positive and statistically significant impact to the economic growth in Mediterranean countries thus confirming the theoretical assumptions of TLGH and the findings of existing empirical studies. Furthermore, results also indicate that other common determinants of economic growth affect with the expected sign: investment, trade openness and human capital have positive impact while government consumption have negative impact on economic growth. The paper contributes to present available empirical studies by encompassing the larger sample of Mediterranean countries based on political and economic classification of WTTC, extended time period, the estimation of dynamic panel data model with Blundell-Bond estimator covering tourism as factor of economic growth together with other factors of economic growth. Aside contributing to the scientific literature, results of this paper also afford implications for policy makers. As it is proved that growth of tourism demand fosters economic growth in Mediterranean region, policy makers should consider improving conditions for tourism competitiveness and thus boosting the economic development. Mediterranean region is famous by its sun, sea, sand tourism products so policy makers may focus on alternative, selective and more sustainable tourist products while designing tourism policies in this region in order to increase its competitiveness.

Research limitations are in the unbalanced data for the time period used due to lack of some data, time and cross-sectional restrictions. The study can also be extended by inclusion of more control variables, altering the dependent variable or even separate analyzing each country in a sample using

je moguće obuhvatom više kontrolnih varijabli, mijenjanjem zavisne varijable ili se čak može provesti pojedinačna analiza za svaku zemlju u uzorku, primjenom drukčijih metodoloških pristupa ili različitih teorijskih polazišta.

different methodological approaches, or different theoretical postulates, i.e. growth-led tourism hypothesis, bi-directional or other.

(2016). No

Acta Economica Et Turistica,

LITERATURA / LITERATURE

- ADAMOU, A. & S. CLERIDES (2010), "Prospects and limits of tourism-led growth: The international evidence". *Review of Economic Analysis*, 3, pp. 287-303
- AHMED, Y. A. (2015), "Analytical Review of Tourism Demand Studies from 1960 to 2014". *International Journal of Science and Research*, 4(1), pp. 2421-2427
- ANTONAKAKIS, N., DRAGOUNI, M. & G. FILIS (2013), "Time-Varying Interdependencies of Tourism and Economic Growth: Evidence from European Countries". *MPRA Munich Personal Repec Archive*, 4875, pp. 1-34
- ARCHER, B. (1982), "The value of multipliers and their policy implications". *Tourism Management*, 2(3), pp. 236-241
- ARELLANO, M. & S. BOND (1991), "Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations". *The Review of Economic Studies*, 58(2), pp. 277-297
- BALTAGI, B. (2008), *Econometric analysis of panel data*. Chichester: John Wiley & Sons
- BLAKE, A. T., GILLHAM, J., & M. T. SINCLAIR (2006), "CGE Tourism Analysis and Policy Modelling". In: Dwyer, L. and P. Forsyth (eds.), *International Handbook on the Economics of Tourism*, pp. 301-315. Cheltenham: Edward Elgar Publishing
- BLUNDELL, R. & S. BOND (1998), "Initial conditions and moment restrictions in dynamic panel data models". *Journal of econometrics*, 87(1), pp. 115-143
- BRIDA, J. G. & M. PULINA (2010), "A Literature review on the tourism-led-growth hypothesis. Cagliari". CRENoS-CUEC (Working Papers CRENoS, 2010, 17)
- CANDELA, G. & P. FIGINI (2012.), *The Economics of Tourism Destinations*. Berlin Heidelberg: Springer-Verlag
- CORTÉS-JIMÉNEZ, I. & M. PULINA (2010), "Inbound tourism and long-run economic growth". *Current Issues in Tourism*, 13(1), pp. 61-74
- CORTÉS-JIMÉNEZ, I., PULINA, M., PRUNERA, C. R., & M. A. ORTUÑO (2009), "Tourism and exports as a means of growth". *Research Institute of Applied Economics*, WP 2009/10
- DRITSAKIS, N. (2012), "Tourism development and economic growth in seven Mediterranean countries: A panel data approach". *Tourism Economics*, 18(04), pp. 801-816
- DWYER, L. (2015), "Computable general equilibrium modelling: an important tool for tourism policy analysis". *Tourism and Hospitality Management*, 21(2), 111-126
- DWYER, L., & R. SPURR (2010), *Tourism economics summary*. STCRC Centre for Economics and Policy
- DWYER, L., EDWARDS, D., MISTILIS, N., ROMAN, C. & N. SCOTT (2009), "Destination and enterprise management for a tourism future". *Tourism management*, 30(1), pp. 63-74
- DWYER, L., FORSYTH, P. & W. DWYER (2010), *Tourism Economics and Policy*. Bristol: Gutenberg Press Ltd
- DWYER, L., FORSYTH, P., & R. SPURR (2004), "Evaluating tourism's economic effects: new and old approaches". *Tourism management*, 25(3), 307-317
- EKANAYAKE, E. M. & A. E. LONG (2012). "Tourism development and economic growth in developing countries". *International Journal of Business and Finance Research*, 6(1), pp. 51-63
- ERYİĞİT, C. & M. ERYİĞİT (2011), "Tourism and economic development in Mediterranean sea basin countries: A panel data analysis". *Vadyba Journal of Management*, 19(2), pp. 87-92
- EUGENIO-MARTIN, J. L., MARTÍN MORALES, N. & R. SCARPA (2004), "Tourism and economic growth in Latin American countries: A panel data approach". *Nota di Lavoro, Fondazione Eni Enrico Mattei*, No. 26
- FRECHTLING, D. (1999), "Estimating the multiplier effects of tourism expenditures on a local economy through a regional input-output model". *Journal of Travel Research*, 37(4), pp. 324-332
- FRECHTLING, D. C. (2013), *The economic impact of tourism: Overview and examples of macroeconomic analysis*. Madrid: UNWTO.
- GÖKOVALI, U. & O. BAHAR (2006), "Contribution of tourism to economic growth: A panel data approach". *Anatolia: An International Journal of Tourism and Hospitality Research*, 17(2), pp. 155-167
- GUJARATI, D. N. & D. C. PORTER (2008), *Basic Econometric*, Vol 5. New York: McGraw-Hill/Irwin
- KUM, H., ASLAN, A., & M. GUNGOR (2015), "Tourism and Economic Growth: The case of Next 11 Countries". *International Journal of Economics and Financial Issues*, 5(4), 1075-1081
- KUMAR, J., & K. HUSSAIN (2014), "Evaluating Tourism's Economic Effects: Comparison of Different Approaches". *Procedia-Social and Behavioral Sciences*, 144, pp. 360-365
- KWON, D. B. (2009), "Human capital and its measurement". In *Proc. The 3rd OECD World Forum on Statistics, Knowledge and Policy*, pp. 6-7

- LANZA, A. & PIGLIARU, F. (2000), "Why are tourism countries small and fast growing?" In: Fossati, A. and G. Panella (eds.), *Tourism and Sustainable Economic Development*, pp. 57-69. Dordrecht: Kluwer Academic Publishers
- LIM, C. (2006), "A Survey of Tourism Demand Modelling Practice: Issues and Implications". In: Dwyer, L. and P. Forsyth (eds.), *International Handbook on the Economics of Tourism*, pp. 45-72. Gloucester: Edward Elgar Publishing
- MILLER, R., & P. BLAIR (2009), *Input-output Analysis. Foundations and Extensions*. New York: Cambridge University Press
- MITCHELL, D. J. (2005), "The impact of government spending on economic growth". *The Heritage Foundation*, 1813, pp. 1-18
- NETO, F. (2003), "A new approach to sustainable tourism development: Moving beyond environmental protection". *Natural resources forum*, 27.3: 212-222
- NOWAK, J. J. & M. SAHLI (2008), "Tourism, capital good imports and long-run growth". *Economic Research Forum*, Working Papers, No. 382
- OH, C. O. (2005), "The Contribution of tourism development to economic growth in the Korean economy". *Tourism Management*, 26(1), pp. 39-44
- PABLO-ROMERO, M. P. & MOLINA, J. A. (2013), "Tourism and economic growth: A review of empirical literature". *Tourism Management Perspectives*, 8, pp. 28-41
- PAO, J. W. (2005), "A review of economic impact analysis for tourism and its implications for Macao". *AMCM Quarterly Bulletin*, 17, pp. 67-81
- PULIDO-FERNÁNDEZ, J. I., CÁRDENAS-GARCÍA, P. J. & M. SÁNCHEZ-RIVERO (2014), "Tourism as a tool for economic development in poor countries". *Turizam: znanstveno-stručni časopis*, 62(3), pp. 309-322
- RODRIGUEZ, F. & D. RODRIK (2001), "Trade policy and economic growth: a skeptic's guide to the cross-national evidence". *NBER Macroeconomics Annual 2000*, 15, pp. 261-338
- SEETARAM, N. & S. PETIT (2012), "Panel Data Analysis". In: Dwyer, L., Gill, A. and N. Seetaram (eds.), *Handbook of Research Methods in Tourism: Quantitative and Qualitative Approach*, pp. 127-144. Cheltenham: Edward Elgar
- SEQUEIRA, T. N. & C. CAMPOS (2005), "International tourism and economic growth: A panel data approach". *Nota di Lavoro, Fondazione Eni Enrico Mattei*, No. 141
- STABLER, M., PAPATHEODORU, A. & M. T. SINCLAIR (2010), *The Economics of Tourism*, 2nd ed. Routledge: New York
- TUGCU, C. T. (2014), "Tourism and economic growth nexus revisited: A panel causality analysis for the case of the Mediterranean Region". *Tourism Management*, 42, pp. 207-212
- TYRRELL, T. & R. JOHNSTON (2001), "A framework for assessing direct economic impacts of tourist events: Distinguishing origins, destinations, and causes of expenditures". *Journal of Travel Research*, 40(1), pp. 94-100
- VIŠIĆ, J. & PERIĆ, Š. B. (2011), "The determinants of the value of incoming cross-border mergers & acquisitions in European transition countries". *Communist and Post-Communist Studies*, 44(3), pp. 173-182
- WALL, G. & MATHIESON, A. (2006), *Tourism: change, impacts and opportunities*. Harlow: Pearson Education
- WORLD BANK (2016), *World Development Indicators*. Available from: <http://data.worldbank.org/data-catalog/world-development-indicators>
- WORLD TOURISM ORGANIZATION (2010), *Tourism Highlights 2010*. Madrid: UNWTO
- WORLD TOURISM ORGANIZATION (2011), *Tourism Towards 2030 / Global Overview*. Madrid: UNWTO
- WORLD TOURISM ORGANIZATION (2015), *Tourism Highlights 2015*. Madrid: UNWTO
- WORLD TRAVEL AND TOURISM COUNCIL (2016), *Economic Impact 2016: Mediterranean*. London: WTTC
- YANIKKAYA, H. (2003), "Trade openness and economic growth: a cross-country empirical investigation". *Journal of Development Economics*, 72(1), pp. 57-89

